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ABSTRACT

This report presents information on a search for measures of citizen education in elementary and secondary schools. It is intended to update information presented in ED 159 115 and to reevaluate the current state of affairs in measurement of citizen education goals. The document is presented in three sections. Section I explains criteria and sources used in the search. Criteria included that a measure must have been tested on at least one grade level, publicly reported, and judged technically adequate. Sources included "Citizen Education School Improvement Effort," Research for Better Schools, 1980: and "Current Index of Journals in Education", ERIC, 1976 to 1979. Section II presents results of the search with regard to 12 general citizen education goals: 1) inquiry skills, 2) respect and caring for others, 3) commitment to equality, 4) commitment to personal freedom, 5) identification with participatory groups on all levels, 6) interpersonal skills, 7) action skills, 8) knowledge about predictions of social problems, 9) commitment to rationality, 10) knowledge of institutions and systems, 11) knowledge about social issues, and 12) commitment to action. Section III presents findings and identifies areas for further research. Findings indicated that goals one through five are now relatively well covered by measures for secondary school grades and that goals eight and nine should be further researched because they remain without appropriate measures at any grade level. The conclusion is that three measures should be highlighted as particularly useful--the "Psychosocial Maturity Inventory," Greenberger, 1976 and two "Educational Goal Attainment Tests," by Tuckman and Montare, 1975. An annotated bibliography concludes the document. (DB)

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THE SEARCH FOR CITIZEN EDUCATION MEASURES CONTINUED

by

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THE SEARCH FOR CITIZEN EDUCATION MEASURES CONTINUED

Sanders (1978) presented the results of a partial search for measures related to citizen education in schools, grades K-12. Measures were sought to relate to general goals which were formulated as a result of a literature review by Hill (1978, pp. 80-82). These goals are presented in Table 1. Sanders reported that there was considerable variation among these goals with regard to the availability of adequate related measuring devices. However, the results of the search were incomplete because there were notable sources omitted from the search. The purpose of this paper is to report the completion of that search and to reevaluate the present state of affairs in measurement of the citizen education goals.

The Search Procedures

In addition to being related to at least one of the goals listed in Table 1, a measure had to meet several other criteria in order to be presented in Sanders (1978) or in the present paper. First, there must have been a public report of the results of actual use of the measure with school students in at least one of the grades K-12. Second, the measure should be designed to provide a score for individuals, not groups. However, third, for practical purposes only measures designed for use in group settings were selected. Finally, in the event that a number of very similar measures exist for the same goals and grade levels, only the two judged to be most technically adequate have been presented.

The search reported in this paper involved sources suggested in Sanders (1978, p. 32), a general reference published after the initial search

Table 1

General Goals of Citizen Education

Knowledge

- Knowledge of the dynamic institutions and systems that exert influence in our society -- law, economics, international relations, politics, and technology.
- Knowledge of the historical and contemporary context of recurring social issues related to the above institutions.
- Knowledge of the major issues and problems forecast for the above areas and others that emerge.

Skills

- Inquiry skills -- which enable learners to select, organize, evaluate, and use information, with special, but not exclusive, reference to problem solving and decision making.
- Interpersonal skills -- which enable learners to engage in communication, act cooperatively, exercise leadership, and take part in arbitration.
- Action skills -- which enable learners to formulate problems, generate alternatives, set goals, plan strategies, consider consequences, and evaluate courses of action.

Dispositions

- Respect and caring for others.
- Commitment to equality of all persons.
- Commitment to rationality.
- Commitment to personal freedom limited only by the commitments above.
- Identification with positive primary groups and local, national, and world communities.
- Commitment to action and participation.

(Superka, Vigliani & Hedstrom, 1978), and measures which came to the author's attention in an unsystematic way during his work on the Research for Better Schools' Citizen Education School Improvement Effort (Presseisen, 1980). Involved as a source also were computerized searches of (1) the ERIC system from 1972 through 1979, (2) the Current Index of Journals in Education from 1976 through 1979, and (3) the Psychological Abstracts from 1975 through 1979; all these searches were conducted for "tests, measures" of "social skills, action skills, inquiry skills, political socialization, and future knowledge" for grades "K-12."

The Citizen Education Measures

The discussion of specific measures is organized in this section with reference to the 12 general goals presented in Table 1. Within each of the following goal subsections there is a summary of the results of the previous search (Sanders, 1978), as well as a discussion of specific measures revealed in the continued search and an overall evaluation of the adequacy of measurement related to that goal. Where there is evaluation of the the measure as to its adequacy for individual assessment, judgments are based upon the accuracy or reliability of the measure, with reliability estimates around .80 being considered the borderline between inadequate and adequate.*

*Individual assessment should be carried out using the individual's score on the measure and the indicator of the measure's inaccuracy, called the "standard error of measurement." This error indicator is inversely related to the measure's reliability, as is presented in most textbook discussions of reliability. The choice in this paper of .80 as a critical reliability is based upon the extent of inaccuracy the author believes is tolerable for making evaluations of individuals' test scores.

Knowledge of the Dynamic Institutions and Systems That Exert Influence in Our Society -- Law, Economics, Politics, Religion, International Relation, and Technology

Of the various institutions referred to in this goal, the search for measures has yielded markedly different results. The previous review (Sanders, 1978) indicated that the economics aspect of this goal could be measured adequately by present tests, which were discussed in that review. However, measures are lacking for assessing knowledge of religious institutions and of technology, as independent of the other institutions mentioned. Finally, the findings were neither suggicient nor totally absent for the institutions of the law, politics, and international relations.

It is in these latter areas that the continued search revealed two additional measures related to this goal. The test developed by Hepburn and Strickland (1979) is a contribution beyond the previous search in that it has an elementary level which has been used with third grade students. Although statistics are provided for possible use in developing norms for the various subtests that comprise the total test, the subtest reliability estimates are too low to be adequate for reliable differentiation among individuals; even the total test reliability estimate of .73 indicates inadequate accuracy for individual assessment when the total score is used.

The other test, Educational Goal Attainment Test: Civics (Tuckman & Montare, 1975a) is noteworthy because it contains in one battery a variety of tests that relate to several aspects of the present goal, as well as to other goals of institution history knowledge and of the positive group and society identification, i.e., loyalty, discussed later in this paper.

The subtests relevant to this goal include knowledge areas of civic rights and responsibilities and democratic ideals. Reliability estimates for these subtests range from .56 to .83 for seventh graders and from .69 to .83 for tenth graders. Thus, while some subtests are adequate for individual assessment, subtest scores with the lower reliabilities should not be used; combination of scores from related subscales might provide more reliable scores for individuals.

Knowledge of the Historical and Contemporary Contexts of Recurring Social Issues Related to the Above Institutions

The continued search revealed only one additional measure related to this history goal. The previously discussed Educational Goal Attainment Test: Civics (Tuckman & Montare, 1975a) has a subtest on the heritage of the United States. This subtest has a reliability estimate in the upper .80s for each the seventh and tenth grade samples, which can be considered adequate for use in individual assessments. This subtest is a contribution beyond the previous search (Sanders, 1978) in that it is easily administered with the other subtests which measure other goals of interest in this paper.

Knowledge of the Major Issues and Problems Forecast for the Above Areas and Others That Might Emerge

As suggested in the previous review (Sanders, 1978), reports on the state-of-the-art of futures forecasting were considered to determine whether a measure of such a goal was available, or even whether there was sufficient consensus among futurists to consider the development of such a measure. Two recent state-of-the-art works addressed at least partially to educators (Cornish, 1977, and Kaufman, 1980) were studied. Neither presented any

test or testing procedure related to the above goal. In fact, neither work suggests that there is sufficient agreement among futurists on the major issues or problems forecast for the future to give the construction of such a test a firm basis.

Inquiry Skills

The previous search (Sanders, 1978) revealed that measurement of inquiry skills was in need of further development. That situation is worse now because one of the two complete measures reviewed there does not seem to be available; that one is Ralph Ojemann's Elementary Social Causality Test, which had been used with students in grades four through six. This loss leaves the elementary school years without a test of inquiry skills.

The continued search did reveal two goal-related measures for the secondary school levels, both for administration from seventh through twelfth grades. The Test of Inquiry Skills (Fraser, 1978) is really six short, relatively independent skills tests. Several of the tests have reliability estimates high enough (e.g., .83) to indicate adequacy for use with individual assessments, while others seem to be appropriate only for comparisons between or among groups of students. A possible problem in the use of the data provided about the tests, and in the use of the tests themselves, is that they were developed with Australian youth.

The other measure is the Cornell Critical Thinking Test (Ennis & Millman, 1971). With questions of inferences and evaluation of information based on a fictitious adventure story, this measure seems as if it would be very involving for any test takers. A recent study of this test (Michael, Devaney & Michael, 1980) suggests that the components of critical thinking hypothesized

by the test's authors are not empirically supported. However, the content of the test does relate to inquiry skills and a total score may be used, with the precaution that reliability estimates in the low to mid .70s indicate inadequacy for individual assessment.

Interpersonal Skills

The previous search (Sanders, 1978), which in relation to this goal was limited to measures focusing directly on characteristics of interpersonal interactions that occur in many different settings, revealed only one measure. It had been used with high school students to determine leadership ability, though its reliability was only of borderline acceptability for individual assessment. Thus, this goal area was relatively unmeasured in the sources used by the previous search.

Unfortunately, the continued search, which involved sources reporting on direct observation procedures and evaluating educational programs designed to foster social skills, revealed only one measure that both could be group administered and provided scores representing individual performances.

Fortunately, however, this measure, the Psychosocial Maturity Inventory (Greenberger, 1976), is applicable from the fifth grade through the twelfth and is the result of a careful development effort. Also fortunately, this measure contains subscales related to several of the citizen education goals. The subscales of particular relevance to this goal are "Communication Skills" and "Knowledge of Major Roles." Thus, the goal area of interpersonal skills can be better measured than was previously reported, even though much measure development remains to be done to cover the breadth of this area.

Action Skills

Action Skills has been defined as skills which enable a person to formulate social problems, generate related ideas for action, set goals for social action, plan related strategies, consider consequences of action for oneself and others, and reflect on the achievement of goals, (Sanders, 1978, p. 19). Sanders' previous search revealed nothing in this goal area.

The continued search revealed the Defining Issues Test (Rest, 1979), an action skill measure with empirical results for students from grades 7 through 12. This measure focuses on preaction decision making in areas of salient social consequences, the moral domain. Many studies of the measures relability have been completed, and a reasonably good estimate of reliability for the individual grade levels using the long form of the measure is .80, which indicates that individual assessments may be warranted.

Addition of this one measure does not change substantially the conclusion that the action skill goal area requires measure development work, although it does provide one example of what such a measure would be.

Respect and Caring for Others, Commitment to Equality of All Persons, Commitment to Personal Freedom

As the previous review (Sanders, 1978) pointed out, the two goals of respect for others and equality commitment become too similar to distinguish when trying to classify a measure as measuring one or the other. And while commitment to freedom is conceptually quite a different topic from the other two goals, the continued search revealed three measures each of which includes all three goal topics as components. Thus, the results of the search for these three goal measures will be presented together here.

One of these measures is an untitled "scale of social attitudes" (Zodikoff, 1967) which represents attitudes related to the deals of the United States sociopolitical system, from "democratic living" to "independent thinking." The scale was developed with fourth, fifth, and sixth graders. It has an estimated reliability of .92, which is adequate for individual assessment.

Another of the measures is the Educational Goal Attainment Test: Human Relations (Tuckman & Montare, 1975b), which contains a subscale concerning tolerance of differences and one concerning positive valuing of human beings. The former subscale has reliability estimates of .70 and .51 for seventh and tenth graders, respectively; thus, this subscale is inadequate for individual assessment. However, scores on the latter subscale could be used for relatively reliable individual assessment, since it has reliability estimates of .82 for seventh graders and .86 for tenth graders.

Finally, the previously discussed Psychosocial Maturity Inventory (Greenberger, 1976) contains relevant subscales: "Enlighted Trust," "Tolerance of Individual and Cultural Differences," and "Self-reliance." This inventory has been the subject of a careful development effort with students from fifth through twelfth grades.

With the addition of these three measures, the goal areas of respect for others, equal opportunity disposition, and commitment to personal freedom are much more adequately measured than was revealed in the previous search. The primary grades alone are left uncovered by measures in these areas.

Commitment to Rationality

The previous search (Sanders, 1978) related to this goal revealed no measures with direct bearing, though it was indicated that measures related to the Inquiry Skill goal would probably involve some contribution of a commitment to rationality. The continued search has revealed several more measures related to the inquiry skills goal, which are discussed above under the Inquiry Skills subsection of this paper. However, the continued search has not revealed any measure directly related to the topic of a rational disposition. Thus, this goal area remains in need of measure development.

Identification with Positive Primary Groups and Local, National, and World Communities

In the previous search (Sanders, 1978) there were three measures related to this goal. However, only one was both readily available and had adequate reliability for individual assessment. This measure could be used with high school students only, among the K-12 school population.

A different orientation in measuring this goal among high school students is represented in Tuckman and Montare's (1975a) scales of "Loyalty to Country" and "Patriotism." These scales have the virtue of being included together in a measure with other scales of interest in citizen education as mentioned above in the review of knowledge goals. However, only one of these two, the "Patriotism" scale has even borderline acceptability for use in individual assessment, as its reliability is estimated at approximately .80 for both seventh and tenth graders.

Another measure mentioned in relation to other citizen education goals that is also relevant here is the Psychosocial Maturity Inventory (Greenberger, 1976). It has a subscale of "Social Commitment," which deals with the student's feelings of community, willingness to modify personal goals in favor of social goals, and interest in long-term social goals. This measure has been studied with fifth through twelfth-grade students.

These two measures add substantially to the adequacy with which this goal area is measured. In school grades 5 through 12, measures are available. Additional development work needs to be conducted at lower grade levels if measurement is to go on at these levels.

Commitment to Action and Participation

There was a variety of measures across almost the total K-12 grade range revealed for this goal area by the previous search (Sanders, 1978). The continued search did reveal additional measures, one (Ehman, 1969) of which met the measure selection criteria presented earlier. The scale content and grade range with which it is used, high school students, overlap measures discussed in the previous review.

As corrections to the previous review, it should be noted that the Locus-of-Control Interview for elementary school children (Malasky, Shore & Milgram, 1971, in Sanders, 1978) is not available. Also, the Trenfield reference in Sanders should be changed to the form given in the present paper's bibliography, though the annotation remains the same as in the previous review.

Discussion

The continued search reported in this paper has added to the previous one (Sanders, 1978) in more than half of the goal areas. These areas are: (1) inquiry skills, (2) respect and caring for others, (3) commitment to equality, (4) commitment to personal freedom, (5) identification with primary groups and communities, (6) interpersonal skills, and (7) action skills. Considering both the previous search and the present one, the first five goal areas listed above are now relatively well-covered by measures for the secondary school grades and a few for the upper elementary grades. The last two goal areas listed, however, will require considerable additional measure development work if they are to be covered adequately.

Two goal areas remain without any appropriate measure. They are: (1) knowledge of the major issues and problems forecast and (2) commitment to rationality. As concluded previously in this paper, the former area may not lend itself to being measured in a way that would have any consensus. Perhaps adequate coverage of the inquiry skills goal area would include the skills, rather than the knowledge, necessary to prepare citizens for the future. The goal area of commitment to rationality does not seem to pose the same problems that futures knowledge does; it is an area in which measures could be developed.

In addition to consideration of measures for the goal areas, three measures revealed in this search should be highlighted. These measures are the Psychosocial Maturity Inventory (Greenberger, 1976) and the two Educational Goal Attainment Tests (Tuckman & Montare, 1975a and 1975b).

They are not only important because with their various subscales they cover several goal areas, but also because they cover other areas not in Table 1 though easily related to citizen education and because they are products of systematic, careful development.

ANNOTATED BIBLIOGRAPHY

Cornish, Edward with Members and Staff of the World Future Society. The study of the future. Washington, DC: World Future Society, 1977.

This work is a systematic introduction to the 1977 state-of-the-art in future studies. It includes a chapter on changes in education, though there is no mention of relevant measures of knowledge, skills, or dispositions.

Ehman, Lee H. An analysis of the relationship of selected educational variables with the political socialization of high school students. American Educational Research Journal, 1969, 6, 559-580.

In this article there are four four-to-six item scales related to political socialization. The titles of the four scales are Political Cynacism, Political Participation, Political Efficacy, and Sense of Citizen Duty. The items for each are brief, with a few structured options available for self-report. Averages and standard deviations are available for Blacks and Whites in a large urban high school.

Ennis, Robert H. & Millman, Jason. Cornell critical thinking test, Level X. Urbana, IL: Author, 1971.

This test is a fictitious story into which mutually contradictory statements are interspersed. The test taker judges on the basis of the other information provided, whether one of the statements is more reliable than the other. In total, 76 such judgments are called for and 50 minutes should be allotted for completion. The test is designed to measure ten aspects of critical thinking: deduction, assumption, reliability of authorities, generalizations, hypotheses, theories, ambiguity, vagueness, specificity, and relevances. Norms are provided for score interpretation.

Fraser, Barry J. Evaluation of inquiry skills. The Social Studies, 1978, 69, 131-134.

This Test of Inquiry Skills consists of six subscales of from 8 to 11 multiple choice items each. The subscales are two reference skills (library and index) and four interpreting skills (scales, basic statistics, charts, and graphs). There are a total of 58 items in the test, and it requires less than an hour's time for administration. Norms are reported for Australian grades seven through ten.

Greenberger, Ellen. Schools and maturity program: Final report. Baltimore: MD: Center for Social Organization of Schools, 1976.

The Psychosocial Maturity Inventory was developed to assess the social, individual, and interpersonal adequacies of adolescents. Although the self-report items were originally grouped into three subscales for each of the above types of adequacies, studies have revealed only two reliably difference subgroupings of items: those that relate more to socio-emotional adequacy and those that relate more to societal adequacy. The standard form (Form B) of the Inventory requires 60 minutes administration time; a short form (Form D) requires about 35 minutes. Norms are available for grades 5, 8, and 11, in other reports by Greenberger and her colleagues at the Center.

Hepburn, Mary A. & Strickland, Joseph B. The development of instruments to measure students citizenship knowledge and skills. Journal of Social Studies Research, 1979, 3, 50-57.

This article reports on the structure and tryout results of a test of 73 multiple-choice items to be read by secondary school students and a test of 41 multiple-choice items to be read for elementary school students. The tests are divided into subtests entitled "national," "state-local," "law-individual rights," "politics," "global affairs," "analytic skills," "participation skills," and, in secondary level only, "democratic principles." Average subscale scores and standard deviations for third, eighth and twelfth grades are presented.

Hill, R. A. A conceptualization of citizen education. Philadelphia, PA: Research for Better Schools, Inc., 1978.

The author presents a rationale and some concepts useful to the practitioner for developing citizen education programs at the school level.

Kaufman, Draper L. Futurism and future studies (2nd ed.). Washington, DC: National Education Association, 1980.

This book provides a guide to teachers at all levels as to how they might make their contributions to the curriculum future-oriented. The author takes an alternative futures approach, rather than the most-likely-future approach, and although this approach is presented clearly, there is no consideration of implications for measuring the students' related competency.

Michael, J. J., Devaney, R. L. & Michael, W. B. Factorial validity of the Cronell Critical Thinking Test for a junior high school sample. Educational and Psychological Measurement, 1980, 40, 437-450.

Presseisen, B. Z. Citizen education at Research for Better Schools. Philadelphia, PA: Research for Better Schools, Inc., 1980.

This paper presents a description of the Citizen Education School Improvement effort at Research for Better Schools, Inc. Described are the goals, accomplishments, and future plans of the effort, which began in December 1977.

Rest, James R. Revised manual for the defining issues test. Minneapolis, MN: Minnesota Moral Research Projects, 1979.

The Defining Issues Test (DIT) is designed to assess the reasoning underlying decision making in moral dilemmas. There are six dilemmas in the test, three of which may be used in a short form. After the respondent considers a dilemma and makes a decision to act in a particular manner, he/she then rates each of 12 possible reasons for the decision as being at one of five levels of importance in his/her judgment, from "great importance" to "no importance." Then the four most important reasons are ranked. Fifty minutes is ample time for completing the six dilemmas. The DIT has been tested extensively with persons in seventh grade and above, and norms are provided for junior high students, senior high students, and various groups of adults.

Sanders, N. M. The search for citizen education measures. Philadelphia, PA: Research for Better Schools, Inc., 1978. (ERIC Document Reproduction Service No. ED 159 115)

This paper reports a search for measures of 12 citizen education goals specified for a project conducted at Research for Better Schools. The paper describes the search procedures, discusses particular measures as they related to each of the 12 goals, and evaluates the state-of-the-art in measuring citizen education outcomes.

Superka, Douglas P., Vigliani, Alice & Hedstrom, Judith E. Social studies evaluation sourcebook. Boulder, CO: Social Science Education Consortium, 1978.

This Sourcebook contains descriptions of approximately 300 instruments of possible value to coordinators, teachers, and others invovled in evaluation of social studies education in schools. The tests and other instruments described are grouped into categories of knowledge, cognitive processes, attitudes, other psychological and social characteristics, and educational environment.

Trenfield, W. G. An analysis of the relationships between selected factors and the civic interests of high school students. Journal of Educational Research, 1965, 58, 460-462.

The 30 items of the "Interest in Participation in Adult Civic Activities" scale are presented, along with the average interest levels expressed by 300 tenth, eleventh, and twelfth graders for each item. The scale involves self-reporting of interest in such things are voting for national elections, serving as a witness, visiting a public school, and working on a charity drive. Total score norms are not presented, although the average and standard deviation are.

Tuckman, Bruce W. & Montare, Alberto P. S. Educational goal attainment tests: Civics. Sponsored by the Puerto Rican Congress of New Jersey. Distributed by Phi Delta Kappa, Bloomington, IN, 1975a.

The EGAT: Civics is composed of eight subscales, covering knowledge of civic and other rights and responsibilities, knowledge of American heritage, attitudes toward "productive citizenship" and toward property and behavior associated with loyalty to country. There is a total of 172 structured-response items, with from 15 to 43 items associated with specific subscales. Subscale items are interspersed with one another, and administration of the entire test requires one hour, 40 minutes. The test was designed for grades seven through twelve, though no norms are provided.

Tuckman, Bruce W. & Montare, Alberto P. S. Educational goal attainment tests: Human relations. Sponsored by the Puerto Rican Congress of New Jersey. Distributed by Phi Delta Kappan, Bloomington, IN, 1975b.

The EGAT: Human Relations is composed of nine subscales, covering knowledge of others and group processes as related to social change; attitudes toward others, ambiguity, and personal efficacy; and prosocial and nonconformist behavior. The test is composed of 152 structured-response items, and requires one hour and 40 minutes for administration. The test was designed for grades seven through 12; no norms are provided.

Zodikoff, David. Development of a scale of social attitudes of fourth, fifth, and sixth-grade pupils. Summary of an unpublished dissertation from New York State University at Albany, 1967. (ERIC Document Reproduction Service No. ED 041 293)

This scale of social attitudes is comprised of 50 brief, Likert-form items. Topic areas included are democratic living, group interdependence, empathy, independent thinking, and social responsibility; however, there is evidence that these topics are not independent subscales. No norms are presented, though the author reports administering the scale to 245 fourth, fifth, and sixth graders.